UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,645	07/25/2003	Douglas G. Placek	240932US0	1403

22850 7590 01/11/2008
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
KHAN, AMINA S	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
01/11/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/626,645	PLACEK ET AL.	
	Examiner	Art Unit	
	Amina Khan	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,12,16-25,27-29,33,35-37,39 and 43-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,12,16-25,27-29,33,35-37,39 and 43-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/ are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2007 has been entered.

2. Claims 1,2,12,16-25,27-29,33,35-37,39 and 43-45 are pending. Claims 3-11,13-15,26,30-32,34,38,40-42 and 46-58 have been cancelled. Claim 1 has been amended.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,2,12,16-18,20,23-25,27,28,33,35-37,39 and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roos et al. (US 6,403,746) in view of Kinker et al. (US 5,696,066).

Roos et al. teaches polymer compositions for use in lubricating oils (column 14, lines 40-50) consisting of 50-100 wt % alkylmethacrylates with 6-40 carbon atoms (column 4, lines 65-67; column 5, lines 1-17), 0-40 wt % methacrylates of formula (III) (column 6, lines 9-20) which includes methyl methacrylate (column 7, lines 3-10), 0-40 wt % component and e) one or more comonomers (column 6, lines 66-67; column 7, lines 1-2; column 8, lines 35 and 36) which may be benzyl methacrylate, and 5-99% synthetic oils such as organic ethers and esters (column 4, lines 54-65). Components c,d and e of the Roos et al. are optional (0% by weight) and therefore need not be included (column 6, lines 21-66). Roos further teach the polymers have molecular weights in the range of 1000 to 1,000,000 g/mol (column 13, lines 55-65).

Roos et al. do not teach the claimed percentage range of the alkyl(methacrylate) polymers and are silent as to the type of organic esters used in the compositions and does not specifically teach neopentyl glycol dioleate. Roos et al. do not teach the instantly claimed properties of the composition or the weight ratios of polymers to oxygen containing compounds.

Kinker et al., in the analogous art of lubricating oils, teaches compositions comprising alkyl methacrylates and 98-99.99 wt percent polyol esters, specifically neopentyl glycol dioleate. Kinker further teaches using lubricating oils as fluids in hydraulic systems (column 1, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions taught by Roos et al. by incorporating the oxygen containing esters taught by Kinker et al. because Kinker teaches the utility of

these compounds in producing efficient lubricating oils. Further Roos et al. invites the inclusion of organic ester synthetic oils. It is prima facie obvious to combine the two references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the refrigerant art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

Regarding the instantly claimed limitation of 5 to 30% based on the total weight of the functional fluid of one or more alkyl(methacrylate) polymers, one of ordinary skill would expect that the 2% taught by Kinker would have similar properties to the 5% instantly claimed absent a showing of unexpected results. A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties, see *Titanium MetalsCorp. of America v. Banner,* 778F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05I.

Regarding the instantly claimed properties, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Roos and Kinker et al. would possess similar properties and weight ratios to those instantly claimed because the compositions comprise similar components at similar percentages.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the portion of the prior art's range which is within the

range of applicant's claims because it has been held to be obvious to select a value in a known range by optimization for the best results. As to optimization results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch,* 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In addition, a *prima facie* case of obviousness exists because the claimed ranges "overlap or lie inside ranges disclosed by the prior art", see *In re Wertheim,* 541 F.2d 257, 191 USPQ 90 (CCPA 1976; *In re Woodruff,* 919 F.2d 1575, 16USPQ2d 1934 (Fed. Cir. 1990). See MPEP 2131.03 and MPEP 2144.05I.

5. Claim 21 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Roos et al. (US 6,403,746) in view of Kinker et al. (US 5,696,066), as applied to the claims above, and further in view of Sluham (US 3,518,917).

Roos and Kinker are relied upon as set forth above.

Roos and Kinker do not teach anhydrous hydraulic fluids.

Sluham, in the analogous art of lubricating and hydraulic fluids, teaches that anhydrous hydraulic fluids are most desirable to maximize the viscosity of the fluid (column 3, lines 63-69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions of Roos and Kinker by incorporating the anhydrous hydraulic fluids taught by Sluham because Sluham teaches the desirability of anhydrous compositions for maximum viscosity of the fluids. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

6. Claims 1,18,19,20 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mottus (US 3,311,597) in view of Kinker (US 5,696,066).

Mottus teaches hydraulic fluids comprising about 15% of polymers selected from monomers of methyl methacrylate, n-dodecyl methacrylate and 4-p-tolylbutyl-2-octadecenoate (column 2, lines 45-55; column 3, lines 1-29; column 4, lines 50-52) and a fluid component selected from organophosphorous compounds such as tricresyl phosphate (column 6, lines 10-50).

Mottus et al. does not teach neopentyl glycol dioleate. Mottus et al. do not teach the instantly claimed properties of the composition or the weight ratios of polymers to oxygen containing compounds.

Kinker et al., in the analogous art of lubricating oils, teaches compositions comprising alkyl methacrylates and 98-99.99 wt percent polyol esters, specifically neopentyl glycol dioleate. Kinker further teaches using lubricating oils as fluids in hydraulic systems (column 1, lines 10-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions taught by Mottus et al. by incorporating the oxygen containing esters taught by Kinker et al. because Kinker teaches the utility of these compounds in producing efficient lubricating oils. It is prima facie obvious to combine the two references, each taught for the same purpose, to yield a third composition for that very purpose. *In re Kerkhoven*, 205 USPQ 1069, *In re Pinten*, 173 USPQ 801, and *In re Susi*, 169 USPQ 423 when ingredients are well known and combined for their known properties, the combination is obvious absent unexpected results. A person of ordinary skill in the lubricant art would expect combinations of these materials to behave in the same fashion as the individual materials, absent unexpected results.

It would have been obvious to one of ordinary skill in the art to arrive at a fire point according to ASTM D 92 of at least 250°C and a kinematic viscosity at 40°C according to ASTM D 445 of 35 mm^2/s since Mottus teaches the equivalent oxygen containing components which would have the claimed fire points and kinematic viscosities. It also would have been obvious to arrive at a functional fluid with a fire point according to ASTM D 92 of at least 300°C, a kinematic viscosity at 40°C according to ASTM D 445 of from 28 to 110 mm^2/s, a pour point according to ASTM D 97 of –40°C or less, and a Factory Mutual 6390 Group 1 rating since Mottus teaches the equivalent oxygen containing components and alkyl(meth)acrylate polymers. One of ordinary skill in the art would expect similar compositions to have similar properties absent unexpected results.

It would have been further obvious to one of ordinary skill in the art to arrive at the instantly claimed invention by selecting the appropriate components and percentages from the teachings of Mottus because Mottus teaches all the claimed components as useful in functional fluids. One of ordinary skill would have been motivated to optimize the ranges to those instantly claimed to arrive at a functional fluid with maximal benefits in hydraulic systems.

Regarding the hydraulic fluid percentage limitation, as the word "about" permits some tolerance, see *In re Ayers,* 69 USPQ 109, and *In re Erickson,* 145 USPQ 207), the "at least 20%" of the instant claims is considered to read on "about 15%" of the prior art. A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties, see *Titanium MetalsCorp. of America v. Banner,* 778F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05I.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mottus (US 3,311,597) in view of Kinker et al. (US 5,696,066), as applied to the claims above, and further in view of Sluham (US 3,518,917).

Mottus and Kinker are relied upon as set forth above.

Mottus and Kinker do not teach anhydrous hydraulic fluids.

Sluham, in the analogous art of lubricating and hydraulic fluids, teaches that anhydrous hydraulic fluids are most desirable to maximize the viscosity of the fluid (column 3, lines 63-69).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions of Mottus and Kinker by incorporating the anhydrous hydraulic fluids taught by Sluham because Sluham teaches the desirability of anhydrous compositions for maximum viscosity of the fluids. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mottus (US 3,311,597) in view of Kinker et al. (US 5,696,066), as applied to the claims above, and further in view of Liesen (US 6,323,164).

Mottus and Kinker are relied upon as set forth above.

Mottus and Kinker do not teach polymerizing in the presence of the oxygen containing compound.

Liesen, in the analogous art of lubricating and hydraulic fluids, teaches polymerizing methacrylates in the presence of the base diluent, which is a lubricating oil (column 2, lines 55-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the methods of Mottus and Kinker by polymerizing the polymer in the presence of the oxygen containing compounds as taught by Liesen because Liesen teaches the that this is a conventional method of producing these lubricant compositions. One of ordinary skill in the art would have been motivated to combine the teachings of the references absent unexpected results.

Response to Arguments

Applicant's arguments filed regarding Kinker and Roos have been fully considered but they are not persuasive. The examiner argues that one of ordinary skill in the art would have been motivated to combine the two references because Roos clearly teaches that polymer components and the addition of these to lubricating oils and Kinker et al. is directed to lubricating oil compositions. Furthermore which Kinker's range of alkyl methacrylate polymer is 2%, this range is close enough to the 5% instantly claimed that one of ordinary skill would expect the composition to have similar properties absent a showing of unexpected results. A *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties, see *Titanium MetalsCorp. of America v. Banner,* 778F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). See MPEP 2144.05I.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AK
January 5, 2008

LORNA M. DOUYON
PRIMARY EXAMINER